

AMENDMENTS TO THE CLAIMS

The following Listing of Claims replaces all prior versions, and listings, of claims in the present application.

Listing of Claims

1-10. (Canceled).

11. (Previously presented) A method of forming a nozzle plate for droplet deposition apparatus, including the steps of:

defining a plurality of distinct bodies of polymeric material distributed over a nozzle plate plane, each said body having a periphery,

forming a plurality of nozzles, each nozzle extending through one of said distinct bodies of polymeric material distributed over the nozzle plate plane,

and subsequently to said step of defining a plurality of distinct bodies of polymeric material, forming at least one metal nozzle plate layer by electroforming around said peripheries of said bodies of polymeric material so that each of said distinct bodies of polymeric material is located within a corresponding one of a plurality of apertures within said metal nozzle plate layer and so that said peripheries of said bodies of polymeric material define at least in part the shapes of said apertures;

to provide a nozzle plate extending over said nozzle plate plane.

12-17 (Canceled).

18. (Previously presented). A method of forming a nozzle plate component for a droplet deposition apparatus, said method comprising the steps of:

forming a layer of first photoresist material on a substrate;

subsequently selectively exposing and removing some of said first photoresist material to define on the substrate an array of distinct bodies of said first photoresist material;

subsequent to said step of selectively exposing and removing first photoresist material, forming a first plate of metal around said distinct bodies of said first photoresist material, so as to form a metal nozzle plate having an array of apertures corresponding to said array of distinct bodies of said first photoresist material, each aperture containing one of said bodies of said first photoresist material; and

forming a nozzle extending through each of said distinct bodies of said first photoresist material.

19. (Original). A method according to Claim 18, further comprising the step of depositing a metallic layer on the substrate prior to forming of the layer of first photoresist material, said first plate of metal being electroformed with said metallic layer serving as a seed layer.

20-21 (Canceled).

22. (Previously presented). A method according to claim 11, wherein each of said nozzles is formed by ablating each of said nozzles through one of said distinct bodies of polymeric material located within a corresponding one of a plurality of apertures within said metal nozzle plate layer.

23. (Previously presented). A method according to claim 18, wherein each of said nozzles is formed by ablating each of said nozzles through one of said distinct bodies of said first photoresist material contained within an aperture in said first plate of metal.

24. (Previously presented) A method according to claim 11, further comprising the step of forming a further layer in addition to said metal nozzle plate layer, said further layer comprising a plurality of apertures aligned with said nozzles.

25. (Previously presented) A method according to claim 18, wherein each of said nozzles has a diameter and wherein said step of selectively exposing and removing said first photoresist material to define on the substrate an array of distinct bodies of said first photoresist material comprises applying a mask, said mask comprising an array of distinct mask features corresponding to said array of distinct bodies, each of said mask features having a diameter greater than the diameter of the nozzle of the corresponding body of first photoresist material.

26. (Previously presented) A method according to claim 18, further comprising the step of forming a further layer in addition to said metal nozzle plate layer, said further layer comprising a plurality of apertures aligned with said nozzles.

27. (New) A method according to Claim 11, wherein the nozzle plate comprises a first nozzle plate layer containing said apertures and the polymeric material located within said apertures through which the nozzles extend, and a second nozzle plate layer comprising a guard layer.

28. (New) A method according to Claim 27, wherein said guard layer comprises, for each nozzle, a guard aperture which is a dimension in the nozzle plane larger than that of the nozzle and smaller than that of the polymeric material through which the nozzle extends.

29. (New) A method according to Claim 27, wherein said second nozzle plate layer is formed by the steps of defining a plurality of distinct bodies of guard layer polymeric material distributed over the first nozzle plate layer, forming said guard layer by electroforming around said bodies of polymeric material and removing said guard layer polymeric material.

30. (New) A method according to Claim 29, wherein said guard layer polymeric material is removed prior to formation of nozzles.

31. (New) A method according to Claim 29, wherein nozzles are formed by ablation prior to removal of said guard layer polymeric material.

32. (New) A method according to Claim 11, wherein the nozzle plate comprises a first nozzle plate layer containing said apertures and the polymeric material located within said apertures through which the nozzles extend, and a second nozzle plate layer comprising a connecting tracks layer.

33. (New) A method according to Claim 18, further comprising the steps of:
 forming a layer of second photoresist material on the first plate of metal;
 selectively exposing and removing some of said second photoresist material to define an array of distinct bodies of said second photoresist material aligned respectively with the bodies of said first photoresist material;
 forming a second plate of metal around said bodies of second material; and
 removing said second photoresist material to form apertures in the guard plate respectively aligned with the nozzles.